A STUDY TO DETERMINE THE REASONS RETIREES USE CHAMPUS RATHER THAN THE FORT CARSON ARMY COMMUNITY HOSPITAL

Graduate Research Project

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by

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This study was done in an effort to recapture some of the patients that have turned to other sources for their healthcare, and better serve the needs of all beneficiaries, the Fort Carson Community Hospital staff wanted to know the reasons beneficiaries chose to use civilian sources for medical care.

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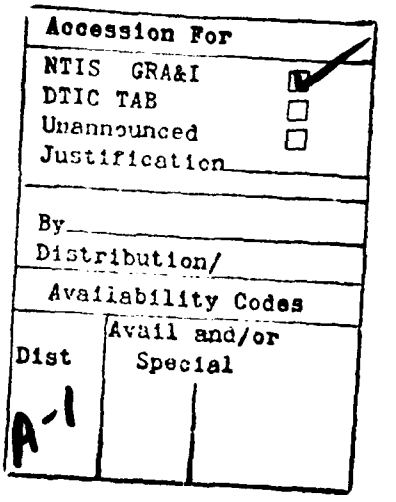

CHAPTER I

INTRODUCTION

Military medicine is undergoing dynamic changes, just as is healthcare in the society as a whole. The Gramm-Rudman-Hollings Law has attracted the attention of the Department of Defense and has pressured the Armed Services to reduce their expenditures on non-tactical services and equipment. The nine billion, six hundred million dollars that the Department of Defense has requested for military medical operations in 1987 has increased congressional interest in how the military medical authorizations are being spent. The commitment to a balanced budget is also forcing a change in the manner in which healthcare is provided to military healthcare beneficiaries. Currently one-third of the care provided by the military healthcare system is purchased under the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS). Several new initiatives under study are: PRIMUS (primary care) clinics, in which beneficiaries are treated by civilian physicians for a fifty dollar per person remuneration which is paid by the Army; the Improved Medical Programs and Readiness Immediately (IMPRINT) project, under which care is delivered through provider networks at prearranged prices; and, the CHAMPUS Prime program, under which beneficiaries will have to pay a nominal fee.[1]

During 1985 there was over twenty-two million, seven hundred thousand dollars spent by the military on inpatient and outpatient CHAMPUS claims in the Fort Carson catchment area. Approximately $2,389,454.40 of this staggering amount was spent caring for Army retirees, their dependents, and dependents of deceased sponsors. Over 4 million dollars was spent on a myriad

of outpatient services, some of which could have been performed at the Fort Carson Community Hospital (FCCH) at a substantial savings to the Department of Defense, provided that the financial and personnel resources had been made available. Of the $1,188,119 requested under the Direct Healthcare Provider Program for use in contracting local civilian providers to eliminate the waiting backlog in the FCCH clinics, only $112,698 was granted for three-quarters of a manyear ($50,000) for Emergency Room physicians, and one manyear ($37,566) for a Pharmacist. The Hospital Commander had requested funds for two Emergency Room physicians and three Pharmacists, along with a number of specialists. It appears as though there is no one adequately managing the Department of Defense healthcare funds.

It is obvious that the military healthcare system is a complicated one, and is continually changing. It is hoped that in our search for a quick fix to the many problems we face that we do not lose sight of our country's obligation to its retired military population. This study is an attempt to increase the hospital management's awareness of the retired community and allow the retirees to participate in the healthcare planning process.

Conditions Which Prompted the Study

The Department of Defense health care beneficiaries in the Colorado Springs area are provided medical services by several organizations. In the vicinity, the Fort Carson Community Hospital, the Air Force Academy Hospital, and Peterson Air Force Base Outpatient Clinic are available. Fitzsimons Army Medical Center, located seventy miles to the north in Aurora, Colorado has been designated as the tertiary care referral center for the Colorado Springs area. As evidenced by the large CHAMPUS expenditure, the beneficiary population has extensively used the local civilian medical services.

In an effort to recapture some of the patients that have turned to other sources for their healthcare, and better serve the needs of all beneficiaries, the FCCH management wanted to know the reasons beneficiaries chose to use civilian sources for medical care. It has been assumed that the physical condition of the 1942 vintage cantonement hospital may play a major role in the beneficiaries' desire to go elsewhere. Another factor that may influence the beneficiaries' choices is the negative image that the FCCH has in the community as an organization that does not care about its patients. In order to ascertain the real reasons for the high CHAMPUS use it was determined that a survey of the retired beneficiaries within the Fort Carson catchment area should be conducted.

The hospital management realized that the old hospital was not the main reason for beneficiaries going elsewhere, and that moving into the new hospital would not necessarily change their perceptions of the quality of care being rendered. Additionally, the study was prompted by the need for information to determine those services which should be offered in the new hospital, in order to attract those beneficiaries who are receiving care from civilian sources. If the services that are in demand by the beneficiaries are not available at the FCCH then additional resources could be requested through the Direct Healthcare Provider Program and the Joint Healthcare Delivery Program to obtain those services in the new hospital. The specialty mix could also be changed to reflect the demands of the beneficiaries seeking care through CHAMPUS.

Research Statement

To conduct a survey of US Army retirees, and their dependents to determine why U.S. Army retirees and their dependents use CHAMPUS versus the services of the Fort Carson Community Hospital.

Objectives

1. Analyze existing services.
2. Determine the catchment area of Fort Carson, Colorado.
3. Determine a representative sample size.
4. Obtain names and addresses of beneficiaries.
5. Conduct survey:
    a. Prepare questionnaire.
    b. Conduct a pretest of instrument.
    c. Distribute questionnaires (mail out).
    d. Collect questionnaires (via mail in).
    e. Collate data.
6. Analyze data.

Criteria

1. At least 35% of the respondents must identify a particular reason for choosing CHAMPUS over FCCH prior to it being accepted as significant.
2. Sample size will be determined based on a 95% confidence level.

Assumptions

1. The resources to conduct the survey will be available when needed.
2. Services currently being offered at FCCH will continue to be offered at the present level.

3. That the rosters of names and addresses of US Army retired personnel in the Fort Carson area are current and accurate.

4. That the sample randomly chosen from the rosters of retired personnel residing in the Fort Carson area will be representative of the population of eligible retired CHAMPUS beneficiaries.

5. That the respondents will be interested in the provision of healthcare in the new hospital.

Limitations

1. The study will only cover outpatient services/programs.

2. Due to the large number of CHAMPUS beneficiaries (active duty Army and Air Force dependents, Army, Air Force, Navy, and Marine retirees and their dependents, and survivors of deceased active duty members) and the hospital management's desire to better serve the retired community, retired Army and their dependents were chosen as the target population segment from which a random sample was chosen. Because information concerning dependents of retired Army personnel is not available, a list of names and addresses of retirees was used to draw a sample.

3. As only the author was available to conduct the survey, the mail questionnaire method was chosen.

4. The time available to conduct the survey was limited, therefore a follow-up mailing was not conducted.

5. Generalization of the findings to the entire Fort Carson retiree population must be viewed cautiously as the response rate of the sample was only 55%, or 5% of the retiree population, indicating the possibility of response bias.

6. A Likert attitudinal point scale was not incorporated into the survey, therefore the strength of the respondents' perceptions could not be measured.

Review of the Literature

To paraphrase Clemenceau, just as war is too important to be left to the generals, health and healthcare are too important to be left to the health professionals and to the healthcare industry.[2]

Although the Army has some of the best quality assurance methods to evaluate the healthcare and services provided, they are concentrated on medical audits and peer review. While these measures may effectively evaluate the care delivered, they do not consider the patients' perceptions. By limiting the judgments about the quality of care exclusively to the providers of that care, the health care system has limited knowledge about its overall performance.[3] Even though the providers may believe they are rendering quality care, the patients may have entirely different perceptions. Consumer opinions yield valuable information about the functioning of the health care system that should be taken into account in assessing quality.[4]

Consumers' responses to surveys can provide prescriptions for action for improving services in some way that is beneficial to patients if not the health care system as a whole.[5] Carey and Posavac proposed that patient surveys be used to isolate the aspects of patient services that are most crucial in forming the opinions that patients hold of the hospital.[6] The rationale for accepting patient surveys as health care quality assurance indicators was articulated by Donabedian as well as Korsh and Negrete, when

they identified patient satisfaction as a factor directly influencing patient compliance with treatment.[7,8]

The literature contains a number of studies that have investigated the relationship of patient perceptions with various demographic variables, but there has been little consistency in the findings.[9] Some studies have demonstrated significant relationships between sociodemographic variables and questionnaire scores, while others have reported that no relationships were found. Nelson-Wernick, et al found that several patient characteristics had an influence on the perceived quality of care.[10] They report that previous users of the facility studied were inclined to rate the hospital more positively than first time users. Additionally, race and social status were found to affect the patients' responses, with blacks and lower socioeconomic class patients perceiving the hospital in a more positive light.

Stratman found that different sociodemographic subgroups attached significantly different degrees of importance to cost, time, convenience, sociobiologic factors, and the technical quality of care.[11] Similar results were found by Fletcher et al in studying patients' priorities for care at the University of North Carolina School of Medicine under the Robert Johnson Wood Clinical Scholars Program. In this study eight attributes of medical care were considered: continuity, coordination, comprehensiveness, availability, convenience, cost, expertise, and compassion. Continuity of care was the highest priority for the sample as a whole, while cost and convenience were the lowest. However, priorities varied between subgroups of patients when separated by demographic, illness, and utilization characteristics. Younger patients (<30) valued coordination the highest, older patients preferred continuity of provider and comprehensiveness of care. Additionally, the older

patients considered the cost of care more important than the younger patients.[12]

Flexner and Berkowitz performed a marketing study which segmented respondents as to whether or not they had a personal physician. The study was conducted to elicit the respondents' attitudes toward nine hospital attributes. These included: location, costs, quality of care, range of specialized services, attitude of staff, reputation, cleanliness of facilities, appearance and decor, and hospital affiliation with the customer's physician. The study also evoked the respondents' attitudes toward hospitals and health care as well as their socioeconomic characterizations. Flexner and Berkowitz found that the customers with a personal physician differed significantly in sociodemographic characteristics from those that had none. The data obtained by the study was used in planning programs to meet the needs expressed by the patients. Since the consumer profiles varied so much, the service population was broken down into segments and specific programs were designed to meet the needs of each subgroup.[13]

A more recent health care marketing study, performed by Professional Research Consultants, Incorporated and American Hospital Publishing, Incorporated, was conducted in August and September 1984. Its purpose was to determine the factors that contribute to consumer preference for a particular hospital. Some of the factors were good medical care, location, tradition, and doctor's recommendation.[14] The respondents were subdivided by sociodemographic categories, again revealing that consumers' perceptions vary according to their demographic makeup.

In this study the two most important reasons that all respondent segments chose for preferring a hospital were good medical care and proximity to home. Next in order of importance were tradition and doctor's recommendation. Good

medical care included the availability of specialists, range of services offered, the availability of the latest technology and equipment, receiving personalized care, and overall hospital reputation. Also noted was the high degree of importance that the respondents placed on courtesy of the staff and the manner with which they were dealt.

The various demographic segments rated the factors differently. The availability of specialists was most important to respondents forty-five years and older. Good medical care was not as important to those sixty-five years and older as it was to other age categories when compared to other factors such as hospital nearness to home, doctor's recommendation, and cost.[15]

Research Methodology

Some of the intermediate tasks that had to be performed in conducting the study were: 1) analyzing existing services; 2) determining the catchment area of Fort Carson; 3) determining a representative sample size; 4) obtaining names and addresses of beneficiaries; 5) developing, distributing, and collecting a questionnaire; and 6) analyzing the data.

Analysis of Existing Services

A review of the workload data for Calendar Year 1985 in the current outpatient programs/services offered at FCCH was conducted to ascertain which services were in greatest demand by retirees, their dependents, and dependents of deceased sponsors. These data were compared to the claims data furnished by OCHAMPUS to the FCCH Patient Benefits Advisor for the same period, indicating the specialties retirees were using in the civilian sector. The services in greatest demand at FCCH by the retirees were immunizations, pulmonary/respiratory therapy, internal medicine, emergency room, physical

therapy, and dermatology. The services used most in the local civilian sector under CHAMPUS were psychiatry, orthopedics, general surgery, cardiology, pulmonary/respiratory therapy, and otorhinolaryngology. None of the FCCH services were underutilized, and most of the clinics had long queues for appointments. These specialties were later incorporated into the survey instrument.

Determining the Catchment Area

The catchment area for the FCCH has been determined by the OCHAMPUS as an area that is within a forty mile radius surrounding Fort Carson.[16] In conducting the survey of retirees only those addresses with zip codes that fell within that radius were used. A listing of those zip codes is at Appendix C.

Determining the Representative Sample Size

The number of beneficiaries in the chosen population segment (according to the Adjutant General, Retirement Services Office) that lived within the catchment area of Fort Carson is 6,594. This figure was used in calculating the sample size. With a population (N) of 6,594 and n/N=.058, the finite population correction factor could not be ignored, therefore the following formula is used:[17]

$$n = \frac{Nz^2pq}{d^2(N-1)+z^2pq}$$

Since the proportion is not known .5 has been chosen for p., the present confidence level is desired with d=.05, therefore:

$$n = \frac{(6594)(3.8416)(.5)(1-.5)}{(.0025)(6594-1)+(3.8416)(.5)(1-.5)}$$

$$n = \frac{6332.8776}{17.4429}$$

$$n = 363$$

The overall questionnaire response rate of approximately 65% was anticipated, therefore the sample size was increased to 600. In order to facilitate the selection of participants, the beneficiaries were selected systematically. The population was divided by the number of respondents desired resulting in the interval by which beneficiaries were chosen as respondents. Since dependents generally live at the same address as the retiree, the questionnaires were sent to the retirees addresses. Consequently, the retiree segment 6,594 was divided by the desired number of respondents (600) which resulted in an interval of eleven. Therefore, every eleventh beneficiary on the list provided by Retiree Services was selected to receive a questionnaire. The starting beneficiary was randomly selected by drawing a number between one and eleven. There was no evidence of a systematically recurring characteristic, and therefore the sample was also considered random.

Obtaining the Names and Addresses of Beneficiaries

The names and addresses of the target beneficiary population were obtained from the Retiree Services Office of the Fort Carson Adjutant General. These were preprinted on file labels and ready for use. Although originally requested in October 1985, the addresses were not actually provided to the author until mid February 1986. Each address was compared to a listing of catchment area zip codes to insure that it was included within the forty mile radius. It should be noted that the names and addresses provided were only those which Retiree Services had on file. The listing may not have included the entire retired Army population of the catchment area, and may include the names of some retirees who had moved away from the area.

Development of the Questionnaire

The questionnaire was developed to determine the reasons beneficiaries use CHAMPUS rather than FCCH. A secondary goal was to assess the perceptions of the care rendered at FCCH on an outpatient basis during January through December 1985. Even those beneficiaries who had not used FCCH during that time frame were asked to share their opinions. Non-users' responses were compared to those of users to determine if a difference existed between the sample segments.

As indicated in the literature, patient perceptions and priorities often differ from those of the staff, and can be totally opposite. In order to narrow the list of reasons that beneficiaries may have had for using CHAMPUS, the author met with the FCCH Patient Representative and reviewed files of complaints and requests for patient assistance. In doing so the author established a pool of beneficiary concerns which was then reviewed by hospital management. Management then added and deleted items and made suggestions as to wording of the questions.

The data was analyzed to determine if a particular reason for using CHAMPUS was identified by thirty-five percent or more of the respondents. Although the original proposal stated that fifty percent of the respondents would have to choose a particular reason before it would be considered significant, from management's standpoint thirty-five percent was considered sufficient to warrant the Command's attention.

Demographic data was also requested from the respondents in order to provide hospital management with a better understanding of the retiree population. These data could prove useful in conducting future strategic planning.[17]

A pilot study was conducted to test the original questionnaire for indications of changes. Fifteen survey instruments were handed out to

retirees by the CHAMPUS Patient Benefits Advisor during the month of January. All of the questionnaires were returned to the author by the end of February. The only problem that was indicated by the responses was that the questions were too negative toward the hospital and military medicine. Some of the respondents felt that the statements were too critical. Consequently the questionnaire was reworded so that military hospitals were compared to civilian hospitals, and those statements which seemed to condemn FCCH were modified or deleted.

Distribution of the Questionnaire

The questionnaires were distributed via mail on 15 April 1986. Enclosed with the questionnaire was a pre-addressed Department of Defense business reply envelope with instructions for the respondents to place their names and addresses on the back of the envelope if they wished to have a copy of the results of the survey. The first questionnaires were returned on 21 April and the cut off for receipt of the questionnaires was 20 May 1986. Because of the volume in which the questionnaires were returned, and the lack of available time on the part of the author, follow-up cards or letters were not sent as originally planned. Of the 600 questionnaires distributed, 327 were returned within the thirty day time limit with an additional eleven arriving after the cut off date.

The surveys were collated according to those individuals who had used the FCCH outpatient facilities during calendar year 1985, and those who had not. This was done in order to compare the responses of the two groups to determine if there was a significant difference between them.

FOOTNOTES

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[15]Inguanzo and Harju, March 1985.

[16]Defense Medical Systems Support Center. "Catchment Area Directory, Volume I, U.S. Inpatient". (1 October 1985).

[17]Wayne W. Daniel: Biostatistics: A Foundation for Analysis in the Health Sciences, 2d Edition: (New York, John Wile and Sons, Inc., 1978), p. 145.

CHAPTER II

DISCUSSION

Variables to be Considered

The following variables require consideration when reviewing the results of the study:

1) Colorado Springs is an extremely competitive health care market with five acute care hospitals and an overabundance of physicians. The civilian market relies very heavily on the revenues it receives from treating CHAMPUS patients and is aggressive in its marketing efforts.

2) The primary mission of the FCCH is to provide acute care to the active duty population assigned to Fort Carson, with a secondary mission of providing care to active duty dependents. If resources are still available, care is then provided to retirees and their dependents.

3) During times of staffing shortages at FCCH, as is currently the case, CHAMPUS beneficiaries are referred to the civilian sector for care. Quite often they continue seeking care downtown and do not return to Fort Carson for care once the staffing shortage has ended.

4) The Air Force Academy Hospital and Peterson Air Force Base Outpatient Clinic are both located within the Fort Carson catchment area. If services, such as ophthalmology and optometry, are not available at the Air Force facilities, their beneficiary population is referred to Fort Carson, often exacerbating the problem of too many patients and not enough providers.

5) Colorado Springs has the third largest military retiree community in the United States, therefore greater demands are placed on the health care system than on most divisional posts.

6) There seems to be a tendency for the Army to assign an inordinate number of families to Fort Carson that have either exceptional family members or a history of child abuse. The hospital is not staffed to meet the additional demands generated by patients that require special attention. The hospital's limited resources are unable to support the quality of care that its patients demand and deserve.

7) The FCCH physical plant was built in 1942 as a temporary structure, and although renovated several times, it is in deplorable condition compared to the other hospitals in Colorado Springs. The old hospital has a negative effect on both patient and staff attitudes.

8) Two weeks prior to the mailing of the questionnaire, a letter was sent to each member of the local retiree population from the FCCH Commander. It stated that services for retirees in Internal Medicine, Ophthalmology, and General Outpatient Clinic were to be reduced. It also stated that no new retiree patients would be seen in Internal Medicine and Ophthalmology. (A new retiree patient was defined as a patient who had not been seen in that particular clinic during the last 90 days.) The local media (television, radio, and newspapers) misinterpreted the announcement and stated that all services were being reduced. It was not until two days later that a correction was made. The possibility exists that these announcements may have biased the responses and had a negative effect on the response rate.

9) Public Law 97-337, dated 15 October 1982, requires newly constructed hospitals to be staffed at levels for which they were constructed. While this law was passed subsequent to the original plans for the new hospital at Fort Carson, testimony before Congress by the Surgeon General committed the Army Medical Department to adequate staffing.

Analysis of Data

The characteristics of beneficiaries included in the study are presented in Table 1. The mean age was fifty-three (Standard Deviation(S.D.)=10), with the greatest proportion falling within the fifty to fifty-nine year old category. As expected with a retired population, seventy-eight percent are over fifty years old with only twenty percent under fifty. Two percent did not respond to this question.

In comparing the length of time since retirement and length of time lived in the Fort Carson area, the percentages in each category demonstrate a close resemblance. The mean years retired was seventeen and five tenths years (S.D.=10.05) and the mean years lived in the area was seventeen years (S.D.=8.5). There is an average of three and four tenths military healthcare beneficiaries per retiree household.

Military pay grades upon retirement indicate the majority of respondents (52.3%) retired at E-6 through E-8 with the mean pay grade for enlisted personnel being E-7 (S.D.=.93). For the officers the mean pay grade was O-5 (S.D.=.9).

The mean traveling time from home to FCCH for respondents was 22.5 minutes (S.D.=12) with the majority (61.9%) within 25 minutes.

The wide dispersion of the observations, as indicated by the standard deviations, suggests that the means given are not a representative summary statistic.

Table 2 presents the ratings and percent distribution of the responses to each of the questions. The data were collated based on responses to question number one. If the respondent indicated use of one or more outpatient services at FCCH in 1985 their responses were placed in the "user" column. If the question was left blank, it was assumed that services were not used at

TABLE 1

DEMOGRAPHIC INFORMATION ABOUT SAMPLE

Age Group

Category	n	%	Cum %
30-39	7	2.2	2.2
40-49	64	20	22.2
50-59	125	39.1	61.3
60-69	91	28.4	89.7
70-79	32	10	99.7
80 & Older	1	.3	100
TOTAL	320	100	

Years Retired

Category	n	%	Cum %
0-5	65	20	20
6-10	62	19	39
11-15	82	26	65
16-20	62	19	84
21-25	38	12	96
Over 25	12	4	100
TOTAL	321	100	

Beneficiaries in Household

0	43	14	14
1	189	61	75
2	51	16	91
3	19	6	97
Over 3	10	3	100
TOTAL	312	100	

Years in Catchment Area

0-5	68	21.3	21.3
6-10	60	18.8	40.1
11-15	79	24.8	64.9
16-20	56	17.6	82.5
Over 20	56	17.6	100
TOTAL	319	100	

Military Rank When Retired

E1-E5	12	3.9	3.9
E6	32	10.5	14.4
E7	83	27.1	41.5
E8	45	14.7	56.2
E9	26	8.5	64.7
WO1-WO3	13	4.2	68.9
WO4	11	3.6	72.5
O1-O3	6	2	74.5
O-4	20	6.5	81
O-5	41	13.4	94.4
O-6	14	4.6	99
O7-O9	3	1	100
TOTAL	306	100	

Distance from Hospital (Minutes)

0-5	11	3.4	3.4
6-15	101	31.6	35.0
16-25	97	30.3	65.3
26-35	55	17.2	82.5
36-45	38	11.9	94.4
Over 45	18	5.6	100
TOTAL	320	100	

Sex

Male	286	90.2	90.2
Female	31	9.8	100
TOTAL	317	100	

TABLE 2

OVERALL RANKING OF RESPONSES
BY RESPONDENT CATEGORY

RANK	QUESTION	TOTAL RELATIVE FREQUENCY (%)	QUESTION	USER RELATIVE FREQUENCY (%)	QUESTION	NON-USER RELATIVE FREQUENCY (%)
1	13	60	13	61	13	70
2	6	58	6	60	6	61
3	8	50	15	50	8	61
4	15	47	8	49	7	54
5	7	40	4	41	14	50
6	14	39	7	38	15	46
7	4	38	14	38	9	44
8	11	35	11	37	5	39
9	12	29	12	31	11	35
10	5	28	5	26	4	30
11	9	28	9	24	12	30
12	16	17	16	19	10	13
13	2	10	10	10	16	13

FCCH and these responses were placed in the "non-user" column. The respondents who did not share their perceptions on any of the questions four through sixteen were subtracted from the total number of respondents. This left 255 usable surveys to be used for further investigation.

In order of frequency, the eight qualifying reasons for using CHAMPUS instead of FCCH, are: 1) the services offered to retirees are inconsistent; 2) it does not take as long to get an appointment with a civilian physician; 3) the doctors at Fort Carson Hospital see so many patients that they cannot get to know you as a person; 4) follow-up appointments are too difficult to obtain at the Fort Carson Hospital; 5) it takes too long to see a doctor at the Fort Carson Hospital once you arrive for your appointment; 6) retirees and their dependents are treated like second class citizens at the Fort Carson Hospital; 6) the services I need are not available at the Fort Carson Hospital; and 8) it takes too long to see a doctor in the Emergency Room at the Fort Carson Hospital.

As indicated in Table 2, there is a difference in the ranking of the responses between the 1985 users and non-users of FCCH. In addition, there was a variation in the particular reasons chosen. Forty percent of the respondents that used FCCH outpatient services indicated that services they needed were unavailable at the Fort Carson Hospital, whereas only thirty percent of non-users indicated this reason. Two additional reasons were identified by the non-users. These were: 1) civilian doctors make you feel more comfortable, and; 2) the care at the civilian hospitals is better.

When using a chi-square test, only one significant difference was found between users and non-users ($p<.005$). This pertained to the statement "Civilian doctors make you feel more comfortable" (See Table 3). Therefore, it is concluded that there is a relationship between the

TABLE 3

COMPARISON OF RESPONDENT PERCEPTIONS BY CATEGORY

Question	Respondent's Perceptions		Calculated X^2	Critical X^2 (3.841)
	Users	Non-Users		
4	76	16	2.233	$.10 \leq p \leq .95$
5	48	21	3.203	$.05 \leq p \leq .10$
6	111	33	.0349	$.10 \leq p \leq .95$
7	70	29	.4519	$.10 \leq p \leq .95$
8	91	33	2.497	$.10 \leq p \leq .95$
9	45	24	7.9884	$p \leq .005$
10	18	7	.2288	$.10 \leq p \leq .95$
11	68	19	.0323	$.10 \leq p \leq .95$
12	57	16	.0181	$.10 \leq p \leq .95$
13	113	38	1.557	$.10 \leq p \leq .95$
14	70	27	2.657	$.10 \leq p \leq .95$
15	92	25	.1678	$.10 \leq p \leq .95$
16	36	7	.7558	$.10 \leq p \leq .95$

respondents' answers to question nine and whether or not they had used FCCH outpatient services.

Although not statistically significant ($.05 \leq p \leq .10$), the responses to question five, "The care of the civilian hospitals is better", deserve further consideration especially in light of the fact that thirty-nine percent of the non-users selected it as a reason (Table 2).

The comparison of responses to question twenty-one, "How far do you live from Fort Carson?", and the category of respondents also revealed a significant relationship between the distance, measured in time, from their home to FCCH, and whether they did or did not use use FCCH for outpatient services ($p<.005$)(Table 4).

Discussion of Findings

Patient perception of medical care has been a prominent research topic at a time when changes in legislature, the economy, demographics and social behavior have created a new, competitive environment for hospitals.[1] Military hospitals that have been sheltered from the effects of the marketing programs of their civilian counterparts are now finding themselves in direct competition with them for the Department of Defense health care dollars being spent under CHAMPUS.

In order to recoup some of those funds military hospitals are having to develop marketing programs of their own. One step in that direction is finding out why beneficiaries use CHAMPUS instead of the military facilities where the out of pocket costs are less. It is expected that the new Evans Army Community Hospital will be an excellent drawing card. The overall quality should improve considerably, provided the staff understands and rectifies the shortcomings identified by the beneficiaries.

TABLE 4

COMPARISON OF DEMOOGRAPHIC PROFILES OF RESPONDENTS BY CATEGORY

DEMOGRAPHIC CHARACTERISTICS	USERS	NON-USERS
Age Group:		
30-39	2	3
40-49	22	15
50-59	38	41
60-69	27	33
70-79	11	9
80 and Over	0	0
X^2=3.04, DF=5, .10<p≤.95, NS		
Pay Grade at Retirement:		
E1-E5	5	0
E6	11	10
E7	28	24
E8	15	14
E9	10	3
W1-W3	4	6
W4	4	3
01-03	2	3
04	5	13
05	11	21
06	5	3
07-09	1	0
X^2=20.821, DF=11 .025≤p≤.05, NS		
Years Retired:		
0-5	23	14
6-10	20	17
11-15	24	31
16-20	19	21
Over 20	15	17
X^2=1.024, DF=4, .10≤p≤.95, NS		
How Long in Area:		
0-5	22	18
6-10	19	17
11-15	25	26
16-20	18	17
Over 20	17	21
X^2=12.44, DF=8, .10≤p≤.95, NS		
Distance (Minutes):		
0-5	4	1
6-15	37	17
16-25	32	26
26-35	12	32
36-45	10	17
Over 45	5	7
X^2=26.321, DF-5, p<.005		

NOTE: X^2=Chi-square,DF=Degree of Freedom, NS=Non-Significant,S=Significant. Percentages add vertically to 100 percent except when rounded.

The present research effort has examined the patients' preceptions and reasons for using CHAMPUS versus the FCCH outpatient services. Unlike similar research in military hospitals this study did not look strictly at patient satisfaction. Instead, beneficiaries were asked to select pre-established reasons for using civilian health care providers based on preceptions gained through their own experience or those acquired from other beneficiaries. The intent of this aspect of the study was to ascertain the image that the FCCH has in the retiree community. The respondents were divided into two categories: those who had actually used the facility in the last year, and those using it prior to 1985 or not at all. This was done to distinguish the perceptions based on recent experience from those based on heresay.

The selection of statement number thirteen, "The services offered to retirees are inconsistent, on again--off again.", by sixty percent of the respondents is not surprising. The annual exodus of staff members in June to other duty stations, schools, and out of the Army creates chaos in most military hospitals every year. Normally the replacements do not arrive until August and are not fully productive until September. Several developments which have taken place, since the initiation of this study and just prior to the mailing of the survey, may have affected the respondents' selections.

The death of an Internal Medicine physician, and the illness of two others forced the announcement of the curtailment of services to retirees in the service that is in the greatest demand by the retirees. The reassignment of two military physicians out of the General Outpatient Clinic effected a change in clinic procedures. The physicians are no longer able to carry the Internal Medicine Clinic overload of chronic care patients. Retirees and their dependents who require continuous monitoring and drug therapy have been

asked to seek care from civilian sources under CHAMPUS until the Internal Medicine Clinic reaches authorized staffing levels.

The statement "It does not take as long to get an appointment with a civilian hospital." was selected by fifty-eight percent of the respondents. Like most institutions where services are free, the demand for the services offered by military hospital far exceeds the limited services available. The centralized appointment system in use at FCCH only has at most five operators working at one time, with five telephone trunk lines on which calls can be received. The majority of the patients calling for an appointment usually receive a busy signal, which can be extremely frustrating. When they do get through they are often told that there are no appointments available. On the other hand, the civilian physician to population ratio in Colorado Springs is approximately one to seven hundred (400 physicians to serve a population of 277,000).[2] In addition, there are a number of primary care clinics conveniently located throughout the city to meet their demands on a twenty-four hour a day basis. These data tend to support the contention that the waiting time for an appointment is shorter in the civilian health care sector.

The selection of statement number eight, "The doctors at FCCH see so many patients that they cannot get to know you as a person.", by fifty percent of the retirees surveyed portends of a problem in communication between the physician and patient, and therefore the quality of care rendered. According to DeMattio and Hays, patient compliance and understanding of what is expected of them is directly related to the physician-patient relationship.[3] These results warrant the hospital management's concern and further investigation.* The lack of personnel has created a potentially dangerous situation in which a

provider may see patients at the rate of one every ten minutes. The quality of care provided under such conditions is questionable.

Each of the reasons chosen by the respondents can, in some manner, be attributed to the lack of resources, which is beyond the hospital management control. However, there are areas which can be improved upon. Forty percent of the respondents identified the long waiting period after they arrived for their appointment as a major dissatisfier. This situation can be partially explained by the fact that it takes longer to see some patients than others, and the administrative tasks that must be accomplished for each patient without the aid of an outpatient dictation system. Facing a seemingly endless stream of patients may be generating sufficient stress to induce burnout in the staff.

Thirty-three percent of the respondents felt that they and their dependents are treated as second-class citizens at FCCH. Although this statement can be attributed to the lack of resources, it also indicates the need for a guest relations program within the hospital. The high selection frequency could originate from the fact that retirees and their dependents receive care on a space available basis, behind active duty personnel and their dependents. This perception on the part of the respondents needs further study in order to elucidate the exact cause.

Surprisingly, only thirty-eight percent of the respondents indicated that the services they need are not available at FCCH. A listing of services that were identified as not being available at FCCH are found in Appendix 2. The apparent relationship between the statement "Civilian physicians make you feel more comfortable.", and the category of correspondent (user or non-user) again raises concerns about physician-patient communications. Poor

communications may have an adverse impact on patient compliance and outcomes.[4,5] The position that physicians do not have enough time to make patients feel comfortable is a rationalization which hospital management should consider as unjustified. It has been demonstrated that a satisfactory and effective physician-patient communication can take place in as little as five minutes.[6] In fact, a great deal of time may be lost in ineffective verbalization, especially by the physician. If physicians spent a little more time in getting acquainted with the patients' ideas and expectations, precious time would be saved and a more satisfactory relationship might be developed. Quite often physicians dictate to the patient without fully understanding their concerns and symptoms, resulting in an unhappy and ineffectual encounter for both of them.[7]

The relationship between use of FCCH outpatient services and the selection of statement number five on the questionnaire, "The care at civilian hospitals is better.", was not statistically supported by the study. However, a significant number of the non-users (thirty-nine percent) selected it as a reason for not using FCCH. Thus, it may be an accurate perception from the patients' perspective. Again in view of the lack of resources available to military medical facilities, and given the austere conditions at FCCH when compared to the local civilian facilities, this finding is understandable. A number of studies in fact have shown that patient perceptions of the quality of care they receive is not always based upon the technical aspects of care, but instead is attributed to a number of different factors. Among the nontechnical aspects of care that are of concern to the patient are: a pleasing appearance, physical comfort, an opportunity for effective communication with the staff[8], ease in obtaining services, and overall hospital reputation.[9]

The relationship between the time that a respondent has to travel to FCCH and whether or not they used FCCH outpatient services was very strong. In reviewing the distribution of responses it is evident that the respondents who lived closer to FCCH, twenty-five minutes or less, used the hospital more than expected (X^2=26.32, D.F.=5). Furthermore, the respondents that lived further away, more than twenty-five minutes, used the hospital less than expected. This observation was also supported by the a marketing study that Inguanzo and Harju reported on, determining that proximity to home was a major reason patients preferred one hospital over another.[10] This finding explains the usage of the local Air Force facilities by Army retirees who live closer to the Air Force Academy and Peterson Air Force Base.

Summary

The purpose of this study was to determine the reasons U.S. Army retirees and their dependents use CHAMPUS rather than the services of the Fort Carson Community Hospital. Three hundred twenty-seven retirees participated by completing a mail in questionnaire designed to identify the reasons for using CHAMPUS versus FCCH. Patient complaints, patient requests for assistance, and staff input were used to design the questionnaire. Retiree demographic and utilization data were obtained with the questionnaire to provide a better understanding of the beneficiary population segments under study.

The design of the survey freely allowed the respondent to pick from thirteen reasons for using CHAMPUS rather than FCCH for outpatient services. Emphasis was placed on patient perceptions regardless of how they were formed. Therefore, even those beneficiaries that had not used FCCH in the past year were asked to share their opinions.

Efforts were made to identify those reasons selected by thirty-five percent, or more, of the respondents thereby giving cause for concern of the hospital management. In addition, the responses of the users of FCCH were compared to the non-users in order to determine the existence of any relationships between the responses and the two categories of beneficiaries. Any associations and/or profiles that appeared to exist were further examined in order to discuss implications for management action.

FOOTNOTES

[1]Joe M. Inguanzo and Mark Harju, "Creating a Market Niche", Hospitals, Vol. 59, No. 1 (1 January 1985), pp. 62-67.

[2]Colorado Springs, Colorado Community Audit", Economic Development Department, Chamber of Commerce, Colorado Springs. November 1984.

[3]M. Robin DeMattio and Ron Hays, "The Significance of Patients' Perceptions of Physician Conduct: A Study of Patient Satisfaction in a Family Practice Center", Journal of Community Health, Vol. 6, No. 1 (Fall 1980), pp. 18-34.

[4]Barbara M. Korsch, Ethel K. Gozzi, and Francis Vida, "Gaps in Doctor Patient Communication", Pediatrics, Vol. 42, No. 5 (November 1968), pp. 855-871.

[5]Milton S. Davis, "Variations in Patients' Compliance with Doctors' Advice. An Empirical Analysis of Patterns of Communication", American Journal of Public Health, Vol. 58 (May 1968), pp. 274-288.

[6]Korsch, et al (1968), p. 868.

[7]Korsch, et al (1968), p. 869.

[8]William A. Flexner and Eric N. Berkowitz, "Marketing Research in Health Services Planning: A Model", Public Health Reports, Vol. 94, No. 6 (November-December 1979), p. 504.

[9]Joe M. Inguanzo and Mark Harju, "What Makes Consumers Select a Hospital?", Hospitals, Vol. 59, No. 6 (16 March 1985), p.90.

[10]Inguanzo and Harju, 1985, p. 90.

CHAPTER III

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

From the respondents participating in the study the following conclusions may be drawn:

1. The retiree population in the Fort Carson catchment area is stable. Once they retire here they tend to stay here.

2. The farther beneficiaries live from Fort Carson the less likely they are to use FCCH outpatient services.

3. Users and non-users of FCCH outpatient services have generally the same reasons for choosing CHAMPUS over FCCH, with the exception that a substantial percentage (over thirty-five percent) of users identified lack of service as a reason for CHAMPUS use while the non-users failed to identify it as a reason for using CHAMPUS.

4. The eight reasons for using CHAMPUS instead of FCCH for outpatient care in order of response frequency are as follows: The services offered to retirees are inconsistent, on again--off again; it does not take as long to get an appointment with a civilian physician; the doctors at Fort Carson Hospital see so many patients that they cannot get to know you as a person; follow-up appointments are difficult to obtain at the Fort Carson Hospital, even if the physician is the one who requests it; it takes too long to see a doctor once you arrive for your appointment; retirees and their dependents are treated as second class citizens at the Fort Carson Hospital; and, it takes too long to see a doctor in the Emergency Room at the Fort Carson Hospital.

5. As a group, more non-users held perceptions that civilian physicians make you feel more comfortable and the care at civilian hospitals is better then did the users of FCCH.

Recommendations

Based on this descriptive study, the following recommendations are made:

1. That a guest relations program be initiated at the Evans Army Community Hospital as soon as possible. The focus of the program should be on establishing an institutional culture in which the patient is treated as a guest of the hospital, such as that established by the airlines and hotels. Being kind and courteous to patients and other staff members should be a requirement of every employee by which they will be evaluated.

2. That a concerted effort be made to change the image of the FCCH, to include media coverage, inpatient and outpatient surveys, and community involvement.

3. That a study be performed to determine how much money could be saved by diverting CHAMPUS funds to the Evans Army Community Hospital.

4. That an effort be made to reduce waiting times for appointments.

5. That a maximum effort be made to bring hospital staffing closer to requirements as required by Public Law 97-337.

6. That future studies use a Likert Attitudinal Point Scale so that strength of perceptions can be measured.

7. That future studies include the use of Air Force Academy Hospital and Peterson Air Force Base Clinic as reasons for not using FCCH.

8. That future studies include an in-depth analysis of the effects of specific demographic data on responses.

APPENDIX A

QUESTIONNAIRE

EVANS US ARMY HOSPITAL RETIRED BENEFICIARY SURVEY

The purpose of the following questionnaire is to provide the retired population of the Fort Carson area with an opportunity to assist in planning the services that will be offered in the Evans Army Community Hospital that is due to open in July 1986.

Participation in this survey is voluntary. However, since you were randomly selected to represent the Fort Carson retired community, your responses are vital to the success of the project. Your answers will be consolidated with those of other respondents and will be considered in making decisions regarding the services to be offered in the new hospital.

YOUR RESPONSES WILL BE HELD IN THE STRICTEST CONFIDENCE!!!

PLEASE TAKE THE TIME TO FILL OUT THE QUESTIONNAIRE AND RETURN IT IN THE PRE-ADDRESSED, POSTAGE PAID ENVELOPE PROVIDED FOR YOU AND DROP IT IN ANY U.S. MAIL BOX.

THE FAMILY MEMBER WHO KNOWS THE MOST ABOUT THE FAMILY'S HEALTH AND HEALTH CARE HISTORY SHOULD ANSWER THE QUESTIONNAIRE.

PLEASE PRINT YOUR ANSWERS DIRECTLY ON THE QUESTIONNAIRE.

1. What outpatient medical services have you and your beneficiaries used at Fort Carson Army Hospital with the last year (1 January - 31 December 1985)?

	Yourself	Spouse	Other Beneficiaries
Dermatology	_____	_____	_____
Ears, Nose and Throat	_____	_____	_____
Emergency Room	_____	_____	_____
Gastroenterology	_____	_____	_____
General Surgery	_____	_____	_____
Gynecology	_____	_____	_____
Internal Medicine	_____	_____	_____
Neurology	_____	_____	_____
Ophthalmology	_____	_____	_____
Orthopedics	_____	_____	_____
Pediatrics	_____	_____	_____
Pulmonary/Respiratory	_____	_____	_____
Psychiatry	_____	_____	_____
Urology	_____	_____	_____
Other	_____	_____	_____

2. What outpatient medical services have you and your beneficiaries used in the civilian market within the last year (1 January - 31 December 1985)?

	Yourself	Spouse	Other Beneficiary
Cardiology	_____	_____	_____
Dermatology	_____	_____	_____
Ears, Nose and Throat	_____	_____	_____
Emergency Room	_____	_____	_____
Family Practice	_____	_____	_____
Gastroenterology	_____	_____	_____
General Surgery	_____	_____	_____
Gynecology	_____	_____	_____
Internal Medicine	_____	_____	_____
Neurology	_____	_____	_____
Ophthalmology	_____	_____	_____
Orthopedics	_____	_____	_____
Pediatrics	_____	_____	_____
Pulmonary/Respiratory	_____	_____	_____
Psychiatry	_____	_____	_____
Urology	_____	_____	_____
Other	_____	_____	_____

3. What was the primary source of payment (over 50%) for the outpatient medical services you received from the civilian market?

CHAMPUS _____ Private Insurance _____ Self Payment _____
MEDICARE/MEDICAID _____ Employer _____

The following questions are designed to obtain your perceptions of the care provided at the Fort Carson Hospital in order to determine why DOD health care beneficiaries are seeking care from civilian sources. Even if you have not personally used the services at Fort Carson, please share any perceptions that you might have regarding the following questions.

CHECK ANY OF THE FOLLOWING REASONS YOU MIGHT HAVE FOR USING CHAMPUS FOR OUTPATIENT CARE INSTEAD OF THE FORT CARSON HOSPITAL. EVEN IF YOU HAVE NOT USED THE FORT CARSON HOSPITAL OR A CIVILIAN HOSPITAL IN THE LAST YEAR, YOUR PERCEPTIONS ARE APPRECIATED:

4. _____ The services I need are not available at the Fort Carson Hospital.

Please write down the services you need that are not available at the Fort Hospital. _____

_____.

5. _____ The care at the civilian hospitals is better.

6. _____ It does not take as long to get an appointment with a civilian physician.

7. _____ You have to wait too long to see a doctor at the Fort Carson Hospital once you arrive for your appointment.

8. _____ The doctors at the Fort Carson Hospital see so many patients that they cannot get to know you as a person.

9. _____ Civilian doctors make you feel more comfortable.

10. _____ The civilian doctors do not make as many mistakes.

11. _____ It takes too long to see a doctor in the Emergency Room at the Fort Carson Hospital.

12. _____ It takes too long to get a prescription filled at the Fort Carson Hospital outpatient pharmacy.

13. _____ The services offered to retirees at the Fort Carson Hospital are inconsistent -- on again, off again.

14. _____ Retirees and their dependents are treated as second-class citizens at the Fort Carson Hospital.

15. _____ Follow-up appointments are too difficult to obtain at the Fort Carson Hospital, even if a physician is the one who requests it.

16. _____ There is no transportation provided when a retiree has an appointment at Fitzsimons Army Medical Center made by a doctor from the Fort Carson Hospital.

THE FOLLOWING QUESTIONS ARE DESIGNED TO PROVIDE THE HOSPITAL STAFF WITH AN IDEA OF WHAT THE RETIRED BENEFICIARIES AND THEIR DEPENDENTS ARE LIKE IN ORDER TO SERVE THEM BETTER.

17. Are you male? _____ female? _____

18. How old are you?

30-39 _____		60-69 _____	
40-49 _____		70-79 _____	
50-59 _____		80 or older _____	

19. How long have you been retired from the service?

0-5 years _____		16-20 years _____	
6-10 years _____		21-25 years _____	
11-15 years _____		Over 25 years _____	

20. What military rank did you hold at the time of your retirement?

E1-E5	_____	01-03	_____
E-6	_____	0-4	_____
E-7	_____	0-5	_____
E-8	_____	0-6	_____
E-9	_____	07-09	_____

21. How far do you live from the Fort Carson Hospital?

0-5 minutes	_____	26-35 minutes	_____
5-15 minutes	_____	36-45 minutes	_____
16-25 minutes	_____	Over 45 minutes	_____

22. How many eligible military health care beneficiaries (other than yourself) currently live in your household?

0	_____	3	_____
1	_____	more than 3	_____
2	_____		

What are their ages?

_____	_____	_____	_____	_____
spouse	child 1	child 2	child 3	others

23. How long have you lived in the Fort Carson area as a retiree?

0-5 years	_____	16-20 years	_____
6-10 years	_____	over 20 years	_____
11-15 years	_____		

THANK YOU FOR YOUR ASSISTANCE IN ANSWERING THE ABOVE QUESTIONS. IF YOU WISH TO HAVE A COPY OF THE RESULTS, PLEASE PRINT YOUR NAME AND ADDRESS ON THE BACK SIDE OF THE ENVELOPE PROVIDED FOR YOUR CONVENIENCE.

APPENDIX B

SERVICES NOT AVAILABLE

AS IDENTIFIED BY RESPONDENTS

Frequency	Services
10	Ophthalmology*
8	Cardiology
8	Internal Medicine*
7	Orthopedics*
6	Gynecology*
6	Dentistry*
5	Optometry*
4	Oncology
4	Nephrology
4	Urology*
4	Psychiatry
4	Thorasic Surgery
4	Gastroenterology

*Services offered to retirees at FCCH on a space available basis.

APPENDIX C

FORT CARSON, COLORADO, CATCHMENT AREA

ZIP CODES

ZIP CODES WITHIN 40 MILES OF FACILITY

ZIP CODE	TOWN NAME	DISTANCE	ZIP CODE	TOWN NAME	DISTANCE
80106	Elbert	34	80917	Colorado Springs	7
80118	Larkspur	32	80918	Colorado Springs	12
80132	Monument	23	80919	Colorado Springs	12
80133	Palmer Lake	25	80944	Colorado Springs	5
80808	Calhan	33	80945	Colorado Springs	5
80809	Cascade	12	80946	Colorado Springs	5
80813	Cripple Creek	20	80947	Colorado Springs	5
80814	Divide	22	80950	Colorado Springs	5
80816	Florissant	29	80977	Colorado Springs	5
80817	Fountain	7	81001	Pueblo	34
80819	Green Mountain Falls	15	81002	Pueblo	35
80820	Guffey	39	81003	Pueblo	34
80827	Lake George	32	81004	Pueblo	36
80829	Manitou Springs	8	81005	Pueablo	37
80831	Peyton	24	81006	Pueblo	38
80833	Rush	38	81007	Pueblo West	31
80840	USAF Academy	15	81008	Pueblo	32
80841	USAF Academy	15	81009	Pueblo	37
80860	Victor	19	81212	Canon City	32
80863	Woodland Park	20	81221	Coal Creek	34
80864	Yoder	31	81226	Florence	31
80866	Woodland Park	20	81240	Penrose	26
80901	Colorado Springs	5	81244	Rockvale	33
80903	Colorado Springs	4	81246	Royal Gorge	34
80904	Colorado Springs	7	81253	Wetmore	40
80905	Colorado Springs	4	80930	Colorado Springs	5
80906	Broadmoor	3	80931	Security	5
80907	Colorado Springs	8	80932	Colorado Springs	5
80908	Black Forest	18	80933	Colorado Springs	5
80909	Colorado Springs	6	80934	Colorado Springs	5
80910	Colorado Springs	2	80935	Colorado Springs	5
80911	Security	2	80936	Colorado Springs	5
80913	Fort Carson	0	80940	Colorado Springs	5
80914	Peterson AFB	7	80941	Colorado Springs	5
80915	Colorado Springs	6	80942	Colorado Springs	5
80916	Colorado Springs	4	80943	Colorado Springs	5

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